

23 February 2011

0321.68812

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Michael J. Sailor
Serial No.:	10/589,741
Conf. No.:	9856
Filed:	8/16/2006
For:	OPTICALLY ENCODED PARTICLES WITH GREY SCALE SPECTRA
Art Unit:	2876
Examiner:	Michael S. Andler

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF PRIOR INVENTION TO OVERCOME
SAILOR U.S. PUBLISHED APPLICATION WO 2003/067231 (37 C.F.R. §1.131)

PURPOSE OF DECLARATION

This Declaration is to establish completion of the invention as claimed in at least claim 18 of this application in the United States at a date prior to August 14, 2003, which is the date of publication of WO 2003/067231. The person making this Declaration is an inventor.

DECLARATION

1. I am a named inventor in the present patent application, and have personal knowledge of the facts stated herein.

2. I am Professor of Chemistry and Biochemistry and Bioengineering at the University of California, San Diego. I hold a B.S. degree in Chemistry from Harvey Mudd College, and M.S. and Ph.D. degrees in Chemistry from Northwestern University.

3. The invention as claimed in at least claim 18 was completed before August 14, 2003.

4. The invention claimed in the present application in at least claim 18 was completed and conducted in experiments that produced grey scale photonic particles prior to August 14, 2003.

5. Specifically, the present application describes experiments on pages 6-7 with the following paragraph "Experiments were conducted to demonstrate the invention. Grey scale samples were prepared by anodically etching p++ type, B-dope, (100) oriented silicon with <1mOhm-cm resistivity in a solution of 3:1 HF (48%, aq)/ethanol by volume. Computer generated anodic current waveforms consistent with the above explanations for grey scale coding were applied and a platinum mesh electrode was used as the counter electrode. Results were consistent with expectations." These experiments were completed on July 9, 2003. An excerpt from the invention disclosure that my co-inventor, Shawn Meade, and I signed on August 14, 2003 indicating the

reduction to practice by July 9, 2003 is shown below.

EVENTS	DATE	INDICATE THE WRITTEN RECORD (e.g., notebook, letter, email), IF ORAL DISCLOSURE, INDICATE TO WHOM.
1. Initial conception of the idea	8/28/03	Notebook #1 of Shuan Maede
2. First description of complete invention, oral or written	2003/05	Notebook #1 of Shuan Maede
3. First successful demonstration (first actual reduction to practice)	10/6/03	Notebook # 1 of Shuan Maede
4. Has this work been: a. submitted for publication? N b. accepted for publication? N c. Published? N		
5. Have you presented this work at a conference or meeting? a. Did you submit an abstract? N b. Was abstract published? N c. Name of conference or meeting? N d. Did presentation include handouts? N		

G. INVENTORS' SIGNATURES

By signature below, I acknowledge my responsibilities and rights as roughly-estimating under the current University of California Patent Policy.

Shuan Maede
Inventor signature

8/14/03
Date

MSR
Inventor signature

8/14/03
Date

Inventor signature

Date

H. WITNESS - invention disclosed to and understood by:

Charles Lin
Witness signature

8/14/03
Date

Hachao Lin
Print witness name

6. The following data was taken from the reduction to practice that was completed on July 9, 2003 for samples with two spectral line radiometric grey scale coding.

```

I = 0.0746(273000y/99727x)

A1max = 0.080
A2max = 0.040

Aemo = 0.015

A_s = 1.0
A_g = 0.00

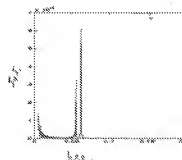
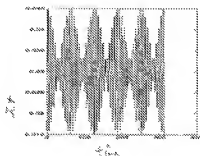
A1 = (A1max - A1emo)/2
A2 = (A2max - A2emo)/2

y1 = A1 * (cos(2 * pi * 1.57y) + 1) + Aemo;
y2 = A2 * (cos(2 * pi * 1.57x) + 1) + Aemo;

y = y1 + y2/2;
figure(1)
subplot(1,2,1)
plot(x,y)

%FFT
Y = fft(2000000);
Pyy = 0.0001 * Y * conj(Y) / 2000000;
f = 1000/(2 * 0.01) / 2000000;
subplot(1,2,2)
plot(f,Pyy(1:200))

```



Sample	wt	A1max	A2max	L1	L2	L3	L4	A1/A2	L1/L2	L1/L3
015_14_1	122	45	45	872.6	874.88	884	885	1	0.97	0.970168
015_17_1	125	45	45	850.83	868.75	8747	8830	1.055		0.966097
015_18_1	123	45	45	845.16	879.87	8822	8890	1.0367		0.974686
015_19_1	124	45	45	892.35	860.07	880	8890	1.06		0.94217
015_19_1	125	45	45	794.01	814.56	8450	8950	1.06	1.78	0.978032
015_19_1	127	45	45	825.68	836.08	8420	8890	1.07	1.39	0.980012
015_20_1	128	45	45	878.01	820.27	8410	8880	2	1.84	0.934987

